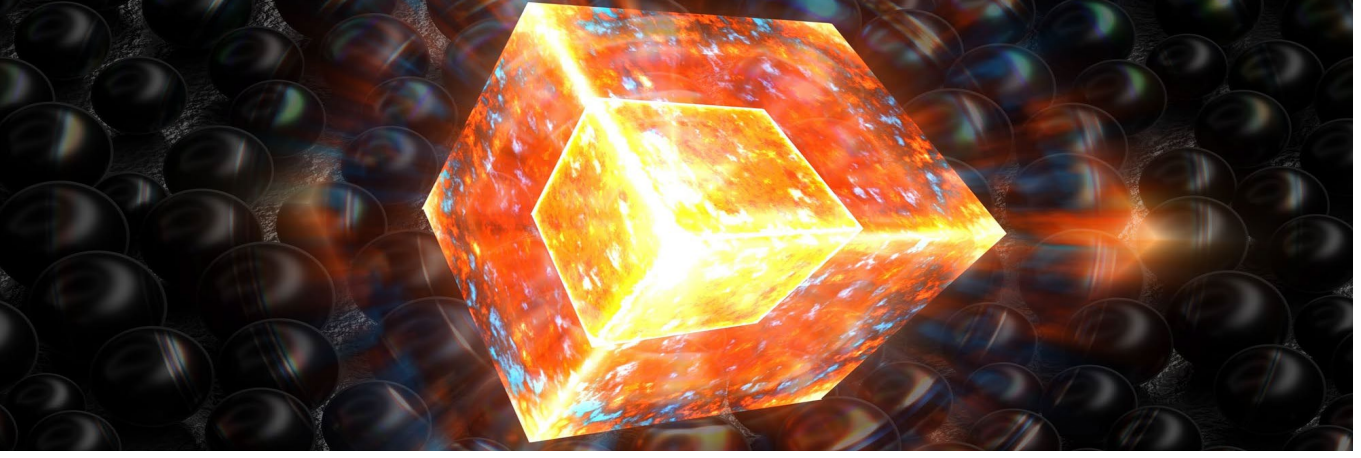

Hybrid quantum circuits : from atomic physics on a chip to quantum enhanced detection of dark matter

Lecturer: Takis Kontos, Laboratoire de Physique de l'Ecole Normale Supérieure/Laboratoire de Physique et d'Etude des Matériaux, ESPCI/ Institute of Astrophysics IA-FORTH

Abstract: In this talk, I will show how hybrid quantum circuits can be used to follow three paths related to quantum information science. In particular, I will discuss how they can host quantum bits for spins or topological degrees of freedom, with perspectives for quantum computing. I will also show that they could be a resource for quantum simulation of interacting hybrid fermion-boson systems. Finally, I will also discuss our prospects for using them as quantum sensors for axions or axion-like particles, which, if they exist, are promising candidates to explain dark matter in the universe.

Lunes 1 diciembre, 15:00 horas, seminario de Física Nuclear

On-line

Centro de Astropartículas y Física de Altas Energías
Universidad Zaragoza